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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/736,598	12/17/2003	Hitoshi Tsuchiya	118128	5875

25944 7590 09/20/2005

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EXAMINER
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WANG, GEORGE Y

ART UNIT	PAPER NUMBER
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2871

DATE MAILED: 09/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/736,598

Applicant(s)

TSUCHIYA ET AL.

Examiner

George Y. Wang

Art Unit

2871

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 01 July 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) 2 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>1/12/04</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election with traverse of Claims 1 and 3-7 in the reply filed on July 1, 2005 is acknowledged. The traversal is on the ground(s) that "the search and examination of the entire application could not be made without serious burden." This is not found persuasive because the LCD in species 1 (claims 1 and 3-7) comprises an electrode with an opening at the inclined part of the thickness-adjusting layer whereas the LCD in species 2 (claim 2) comprises an electrode with a protrusion at the inclined part. This is a fundamental difference in the design and function of the electrode, thereby requiring different subclassification searches.

The requirement is still deemed proper and is therefore made FINAL.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation

Art Unit: 2871

under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1 and 3-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ogishima et al. (U.S. Patent No. 6,788,375, hereinafter "Ogishima") in view of Okamoto et al. (U.S. Patent No. 6,281,952, hereinafter "Okamoto").

4. As to claim 1, Ogishima discloses a liquid crystal display (LCD) device in which a liquid crystal (LC) layer (fig. 1, ref. 30) is interposed between a pair of substrates (11, 21) in which a transmissive display region for transmissive display and a reflective display region for reflective display are provided within a single dot region comprising an LC layer formed of LC (31) with negative dielectric anisotropy whose initial alignment is vertical (col. 12, lines 37-38), a thickness-adjusting layer (fig. 18, ref. 213) which makes the thickness of the LC layer different in the reflective (R) and transmissive (T) display region, where the thickness-adjusting layer has an inclined plane in the vicinity of the boundary between the reflective and transmissive display region and an electrode (222) on the opposite substrate where the thickness-adjusting layer is positioned.

However, the reference fails to specifically disclose an opening in the electrode on the opposite substrate corresponding to the thickness-adjusting layer.

Okamoto discloses an LCD having an opening in the electrode (fig. 27, ref. 502) on the opposite substrate (29) corresponding to the thickness-adjusting layer (25).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have an opening in the electrode on the opposite substrate corresponding to the thickness-adjusting layer since one would be motivated to provide openings for the color filters to ultimately prevent parasitic capacitance and improve the overall optical characteristic of the reflection and transmissive display region (col. 69, lines 3-16).

5. As per claim 3, Ogishima discloses the LCD device as recited above where there is an opening (fig. 18, ref. 213a) provided at a position substantially corresponding to the center of the transmissive display region in the electrode (212r) on the substrate where the thickness-adjusting layer of the liquid crystal layer is provided.

6. Regarding claim 4, Ogishima discloses the LCD device as recited above where there is a protrusion (fig. 18, ref. 216) provided at a position substantially corresponding to the center of the transmissive display region in the electrode (212t) on the substrate where the thickness-adjusting layer of the liquid crystal layer is provided.

7. As to claims 5-7, Ogishima discloses the LCD as recited above having color filters provided on the inner side of any of the pair of substrates (fig. 1, ref. 20; color filters on the CF substrate but omitted for simplification, see col. 21, lines 52-53),

Art Unit: 2871

substantially circularly polarized light incident on the substrates (col. 54, line 55 – col. 55, line 8), and where the LCD is used in an electronic apparatus (col. 1, lines 9-12).


### ***Conclusion***

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to George Y. Wang whose telephone number is 571-272-2304. The examiner can normally be reached on M-F, 8 am - 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert H. Kim can be reached on 571-272-2293. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

gw  
September 19, 2005

  
**DUNG T. NGUYEN**  
**PRIMARY EXAMINER**